# Letter from the Editors

## Entering a new decade

The first Journal of Business Chemistry issue of the 2020s addresses the 'megatrends' that we will face throughout the next ten years - artificial intelligence, digitalisation, sustainable development and decarbonisation, to name a few. With developments in these fields, industry always faces the question of how to implement changes. The articles in this issue collect the perspectives of academia, industry and consulting as a guide through this process. We are also pleased to incorporate a new section to the journal - "Introductions to innovation management", which should be of particular interest to natural scientists in industry in the process of transitioning to a business or management role. In this section, literature concepts from the field of innovation management will be discussed.

The first article of this issue is titled „Can an Artificial Intelligence Model be the Inventor of a Molecule designed by the Model and how can Patentability be assessed?", a topic, which will become ever more important in the coming years and decades with the increasing presence of artificial intelligence in the pharmaceutical industry. Should new molecules generated by AI, but never made in the lab, be patented? If so, is the person who created the AI model the inventor of a conceived compound, the person who applied the model to find the new compound, or is the AI model itself the inventor? These questions are debated in Dr. Huhn's commentary, leaving much room for fruitful discussions.

In "Shaping Digital Sustainable Development in Chemical Companies", Dr. Keller and Dr. Bette share results of their survey on the topic of digitalisation and sustainable development conducted on 60 chemists in the chemical industry in Germany. What is the relationship between digitalisation and sustainability within chemical companies? How should digital sustainable development be carried out in the chemical industry and what are the factors impeding its implementation?

Continuing the topic of sustainability, we come to Dr. Falter et al.'s article on "Decarbonization Strategies in Converging Chemical and Energy Markets". The article reviews current energy usage in the chemical industry, along with governmental and industrial goals for carbon neutrality. Ways in which progress is being made to meet those goals, roadblocks to said goals and the possibilities for future improvement are described. If you are looking to develop a decarbonization strategy in your company, check out the four-step guide in the last chapter.

Mr. Smolnik's and Mr. Bergmann's article titled "Structuring and managing the new product development process – Review on the evolution of the Stage-Gate® process" provides a comprehensive literature review of the last four decades. The last chapter detailing the I2P3® process from Evonik Creavis GmbH may be of particular interest to chemical companies. This case study demonstrates how chemical companies can successfully adapt their new product development processes.

Lastly, Ms. Riesmeier introduces the concept of disruptive innovation in "Application of Kuhn's Theory of Scientific Revolution to the Theory Development of Disruptive Innovation". The development of disruptive innovation theory is assessed through Kuhn's four stages of scientific development: crisis, revolution, normal science and accumulation of anomalies. It is debated whether anomalies around the theory's definition and its predictive value will impact the theory's future.

Please enjoy reading the first issue of the seventeenth volume of the Journal of Business Chemistry. We are grateful for all the support from authors and reviewers for this issue. If you have any comments or suggestions, please do not hesitate to contact us at magdalena.kohut@businesschemistry.org.

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